

Claims

[1] A radial foil bearing comprising:

- a) a top foil 1
- b) a key 2 welded to a cut portion of the top foil 1;
- c) an inner bump foil 3 disposed outwards of the top foil, the inner bump being formed of a wider and higher bump and a narrower and lower bump alternately arranged;
- d) an outer bump foil 4 disposed outwards of the center of the wider and higher bump of the inner bump foil 3, the outer bump having a height lower than that of the narrower and lower bump of the inner bump foil 3;
- e) a bump sheet 5 for fixing the inner bump 3 and the outer bump 4; and
- f) a bearing housing 6 disposed outwards of the bump sheet 5 and having a key groove 7.

[2] The radial foil bearing according to claim 1, wherein the inner diameter of the top foil 1 is coated with a metallic dry lubricant, and then ground, so that a dry lubricant not requiring a strong adhesiveness can be used.

[3] The radial foil bearing according to claim 1, wherein the thickness of the top foil 1 meets an equation

$$t \geq 0.1 \cdot D^{0.33}$$

(t: the thickness(mm), D: the diameter of a shaft(mm)).